

VALK (F.)

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Iris Retractor.

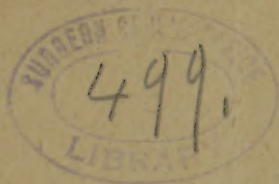
BY

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CATARACT EXTRACTION WITH THE IRIS RETRACTOR.*

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SINCE the early part of 1887 I have performed the operation for the removal of cataract by a method somewhat different from that usually adopted.

This I have placed before the profession at the Post-graduate School, at the State society, and also at the meeting of the New York Academy of Medicine; but, owing to unforeseen circumstances, there has been no opportunity for my colleagues of New York city to criticise or to discuss the merits or demerits of the retraction of the iris and the removal of the lens *at the same time*. I have therefore asked the honor and the privilege of bringing this matter before the congress, that it may meet with a full and fair discussion.

I shall always highly appreciate the opinions and suggestions of those who entered this special branch of surgery before I attempted to step on the first round of the ladder

* Read before the Section in Ophthalmology of the First Pan-American Medical Congress.

of fame, as well as the remarks of those who are working side by side with me in trying to advance this noble art, even though our efforts may not meet with the approval of all. Still, we hope these are but steps forward, if I may call them such, that they may some day fall into the hands of men who may so improve them as to produce far better results.

I do not propose to discuss the merits of the different methods for the removal of the sclerosed lens which intercepts the rays of light, nor the special features of an operation with or without an iridectomy, as the advantages of a round and normal pupil are well known and obvious. Nor yet do I believe there will ever be a day when the conscientious surgeon will adhere strictly to only one method of operation, but will always adopt that which he thinks best for the ultimate good of his patients.

Therefore it is my intention in this paper to suggest some thoughts and a method that have occurred to me in the course of my limited number of operations, and to explain the use and advantages of the simple little instrument, "the iris retractor," that I have used whenever possible during the past four years.

As regards the *time to operate*. I think this should be decided, when we find the cataractous lens sufficiently hardened to admit of its ready removal, without any reference to what the vision in the other eye may be. If our patients are willing to have an operation performed, even though the vision may be good in one eye, say $\frac{2}{10}$, then you are justified in taking the slight risk there may be of failure, for the benefit of the improved binocular field of vision. The blindness on one side renders our patients at a disadvantage, as some of my cases will show; at the same time we make a useless eye ready for practical vision when its fellow lens becomes opaque.

Preparation for the Operation.—We may do nothing as regards the ultimate success except so far as we may have the mind of our patients completely at rest. In the light of the present statistics, the chances of failure in a healthy eye, if a cataractous eye can be healthy, are very small, as you may readily see by the reports of cases lately published. So I do not in any way prepare my cases beforehand, and particularly avoid the use of atropine before the operation.

Operation.—At the time when I am ready for the operation I instill a sufficient quantity of a solution of cocaine (four per cent.) to render the cornea anæsthetic, but not to dilate the pupil. The patient is then placed on a steady table or bed with a good clear light on the eye, and the lids are opened with the speculum. The eye is then washed with a solution of boric acid, while my instruments are all placed in boiling water and then on a clean towel and covered until wanted.

Section.—This I consider the most important part of the operation, as upon a good section, I believe, depends the ultimate success. This should be in the same plane, except at the finish, as I shall describe. I wish to avoid the conjunctival flap, and by the perfect coaptation of the wound in the cornea we may avoid slow healing, septic infection, and prolapse or incarceration of the iris. I make the section either upward or downward according to the eye to be operated upon—as upward in the right eye; downward in the left, or, if the operator is ambidextrous, then both sections may be made upward, as I consider the upward section preferable. I prefer, in making my section, to cut always toward myself, for in so doing we produce a much smoother and clearer cut. I always make the puncture and counterpuncture wholly within the corneal tissue, through its transparent margin, about one millimetre

from its periphery, and so that the cutting edge of the knife will just cover the pupillary edge of the iris on the side toward which I propose to make the section. If possible, I rapidly make the section of the cornea with three distinct cuts: first, carrying the point of the knife, as soon as the counterpuncture is made, upward and forward, cutting one side of the cornea; then the heel of the blade is drawn upward and backward, so cutting the opposite side; then, turning the knife on its long axis, the section is completed with the third cut by pushing the knife steadily forward until released. I think De Wecker, of Paris, first suggested this method, and I prefer it to all others. As I complete the section in the above manner, the knife comes out some distance from the scleral junction, leaving room for the iris to be tucked in when drawn back by the retractor.

At this time we may have prolapse of the iris; if so, it must be returned with the spatula if we wish to save the iris; but, if not, then it may be drawn out and cut off if we decide an iridectomy is best. Another complication that may occur at this stage, particularly in very old people, is the rupture of the capsule or the zone of Zinn with the presentation of the lens at the section; if so, it must be removed at once by pressure on the cornea. I am inclined to think that should there be any tendency to prolapse at this stage, it is better to perform an iridectomy at once, to prevent any future prolapse as the healing process proceeds. If no complications arise, I then proceed to open the capsule by a peripheral incision, passing the cystotome inward to the pupillary space, then under the iris, and sweep it around beneath the edge so as to cut the capsule in more than one third of its periphery on the same side that the section has been made.

My next step is the drawing back of the iris and the

extraction of the lens. At this point I wish to say a few words in reference to my method of the retraction of the iris with the little instrument called the "iris retractor," which I now present, claiming that I first adopted and practiced this method. In the *Archives of Ophthalmology*, May, 1888, page 60, Dr. Herman Knapp states that before and since he read his first paper on this subject, he had drawn back the iris toward its periphery, where he found that membrane somewhat rigid, using the small wire loop; but he does not state that he held the iris *drawn back* until the lens was removed, so I infer that he simply drew it back to relieve its rigidity, or to break up any adhesions that may have formed between the iris and the anterior capsule.

Again, I find an article by Dr. Barton Pitts, of St. Joseph, Missouri, in the *Medical Record*, October, 1890, wherein he describes a method of operation by which he draws back the iris with the same wire loop which Dr. Knapp used, and held it there until the lens passed out by pressure on the cornea. In the same paper Dr. Pitts criticises my retractor, when, according to his own admissions, he has never seen my instrument, nor does he even know its construction, but has simply followed out my ideas of drawing back the iris and holding it *tucked back* until the lens is removed. He does not give me the credit of having first adopted that procedure, though his ideas may be original with himself.

I will quote Dr. Pitts's words: "By Dr. Valk a distensible shield with two knobs is proposed. The method of its manipulation is to insert through the corneal wound, cover the surface of the iris, and, by the knobs holding in the pupil, retract the iris upward as far as necessary and slide the lens over the front surface of the shield. Dr. Valk reports good success with it. I have not tried it, nor am I familiar with its

pattern except from description. I should think, however, it objectionable on the score of occupying considerable space, already too limited. Its insertion, moreover, I think awkward, and, in the event of sudden movement of the eye under operation, its presence in the anterior chamber especially dangerous. . . . To overcome the resistance of the iris and frequent rigidity of the pupil, I have for two years resorted to the same instrument recently mentioned by Dr. Knapp as used by him—that is, a fine wire loop attached to a delicate handle. This instrument, which can be easily and thoroughly sterilized, I insinuate through the corneal wound into the pupillary space and retract the iris into the superior triangular space, and by a gentle pressure backward and upward of a strabismus hook, applied against the lower edge of the cornea, I have little difficulty in the delivery of the lens and without material injury to the iris, and in no instance accompanied by loss of a single drop of vitreous or followed by septic infection of the eye.” I have quoted his remarks thus fully that you may note the different methods, and also if this little instrument is at all objectionable because it occupies too much space, or is especially dangerous in any sudden movements. I have never found it so, and in reality this retractor of mine does not take up any more room than the wire loop; nor is it *awkward* in any sense, as it can be easily removed from the eye by simply tipping up the ends of the blades, thus instantly releasing the iris, and at once removed if necessary.

It seems to me that the construction of this little instrument is extremely simple, having only two small smooth knobs on the ends of a forceps with crossed action, and the size of the ordinary iris forceps. These little knobs, standing at right angles to the axis of the ends of the blades and pointing downward, simply hold the iris tucked

back in the superior triangular space until the lens passes into the corneal wound, when the iris is at once and easily released.

When we consider the ease with which the lens passes out and the slight pressure required on the cornea—so much less than in the simple extraction universally adopted at the present day—I feel justified in claiming some merit and originality for this little retractor.

The eye being now ready for the extraction of the lens, it is grasped by the fixation forceps, directly opposite the section, and held steady by a careful assistant. I now take the retractor in the left hand, and, with the blades closed and the set screw so arranged that the blades will open to about the diameter of the pupil, I insinuate the ends through the section to the pupillary space. The blades are now opened by pressure and the iris drawn back and tucked beneath the edge of the lower corneal section. Holding it steady in that position, a slight pressure is made on the opposite side of the cornea by a spoon or hook, causing the lens to rise up and easily pass out over the ends of the blades. As it does so, and as soon as the lens presents itself at the section, the retractor is pushed slightly inward, at once releasing the iris. The retractor is then generally removed with the lens lying in the concavity of the blades. As the lens clears away, we find the iris back in its position, not injured in any way, nor has it been exposed to the air, as may occur in simple extraction.

In case there should be any cortex remaining which I do not think will be absorbed or will interfere with the vision, I have reintroduced the retractor, and, drawing back the iris again, these masses are easily pressed out with the spoon. This completes the operation, and, the

section being in perfect apposition, the speculum is removed, the eye gently closed, and the bandage applied.

After-treatment.—There seems to be as much diversity of opinion as regards the method of after-treatment of an operation at the present day as there is in the methods of operation, even so far as not to use any bandage or dressings of any kind. I note that Professor Knapp does not close the eye until about half an hour after the operation, in order to see if there is any tendency of prolapse. He only applies the cotton and isinglass slips, while Chisolm, of Baltimore, does not even apply any cotton; but as I have watched the healing process of my cases and noted the different conditions under which my patients have from necessity been placed, I am inclined to think that it is best to take a "happy medium" with a decided modification of the old strict method in use some years ago. Our first consideration must be the ultimate success of the operation, and next the daily comfort of our patients as the healing process proceeds. Bearing these two points in mind, it seems to me that there will be fewer movements of the eye and consequently less pressure on the sclera by the straight muscles if we close both eyes with a neat-fitting flannel bandage, with pads of absorbent cotton over the eyes. The slight restraint of a day or two in bed will not cause any distress, while the rest and quiet will assist in the rapid healing of the large corneal wound. I do not doubt but that those who use the modified dressings have as good success as can be wished for, though the above ideas seem to me the best that we may employ to complete the healing of our patients, according to the old motto, *Tuto, cito et jucunde*.

I remove the bandage from the eye not operated upon at the end of forty-eight hours, or on the second day, as I do not wish, nor do I see any need, to keep

these old people in the dark any longer than is absolutely necessary.

In my last four cases I have tried to carry out my ideas of non-interference still further, as I sometimes think that atropine may irritate an eye which has been operated upon for cataract, and lately I have not used this drug unless necessary—that is, when there were indications of commencing iritis; but I have changed the bandage every twenty-four hours, washing the lids carefully and gently with warm water, applying a little vaseline to the edges of the lids, and then replace the bandage.

Now I wish to make another suggestion in reference to that desire, which we perhaps all have, to look at the eye and to see the result of our work. Is it not better to leave the eye alone until all possible danger of complications has passed? Some of us have noted an opening of the wound with prolapse of the iris as late as the sixth day after the operation. Therefore I have decided to simply change the dressings every day for about ten days, unless there are some indications otherwise, and then open the eye in a darkened room, gradually accustoming it to light by the use of smoked glasses.

Professor P. D. Keyser, of Philadelphia, and Dr. W. Buss, of Bradford, Pa., have used my retractor in several cases and have reported to me good results, each being pleased with the easy exit of the lens and the rapid healing of the wound in the cornea.

In conclusion, I do not think the surgeon who considers the best interests of his patients and the various conditions that may arise during an operation for the removal of cataract will persistently adhere to any one method of operation. In my own cases I have been compelled to lay aside the retractor in four cases out of thirty-three. So the surgeon must adopt that method which to him at the time

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seems best for the ultimate success, either with or without an iridectomy; but we can adopt some method and endeavor to carry it out, unless we find it will endanger the final results.

Some of my cases have required a subsequent discission; but as each case of that kind requires special study and methods in itself, I will not make any particular reference to it, except so far as I consider Dr. Knapp's remarks as to the operation, delivered at Detroit, as the best, and giving the final results required.

In the following table I give the histories of twenty-nine cases in which the retractor was used, being private and clinical cases. In some of my dispensary patients I could not get the final tests, as they would disappear after the healing of the wound.

In all these cases I have used the *retractor*, though some of them have presented indications almost against its use; but the final results have seemed equal to those of any other method, while in four cases not reported I could not use the retractor and the final results were not as satisfactory, and in one case, where I performed an iridectomy, the end was total loss.

This method is perfectly safe and the retractor can, if necessary, be quickly and easily removed from the eye, while the objection once raised, that it is another instrument introduced into the eye, is not tenable, as this instrument is so easily sterilized, and, besides, I think there is less manipulation of the iris than in simple extraction, particularly if the iris is prolapsed at the exit of the lens.

I will close by stating that by this method I do not meet with any more accidents or risks, as loss of vitreous, etc., than usually occur by other methods, and I believe

No.	Sex.	Age.	Name.	Eye.	Iris pro- lapsed.	Condition, com- plications.	Results.	Remarks.
1	M.	35	William C.	R.	No.	Traumatic.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Incarceration of iris.
2	F.	55	Ellen C.	R.	Yes.	Senile.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
3	F.	55	"	L.	"	"	Shadows.	"
4	F.	60	M. A. L.	L.	No.	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Discession, six months.
5	F.	60	Mary W.	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
6	F.	72	Sarah C.	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Incarceration of iris.
7	M.	35	Patrick K.	R.	"	Immature.	$\frac{10}{10}$ w. + $3\frac{1}{2}$.	"
8	M.	53	Antonio L.	R.	"	Senile, black.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
9	M.	53	"	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
10	F.	30	Dora A.	R.	"	Synechia, soft.	Successful, but no final test.	Spec. iritis before operation.
11	M.	50	Italian.	R.	"	Dislocation, up.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Vitreous lost.
12	M.	33	Bernard C.	R.	"	Soft.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
13	M.	50	Dennis L.	R.	"	Glaucoma.	V. = 0.	"
14	M.	5	Patrick L.	L.	"	Senile.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Incarceration of iris.
15	F.	66	Mary C.	R.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Discession, six weeks.
16	F.	66	"	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Incarceration of iris.
17	F.	70	Margaret R.	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Discession, six weeks.
18	M.	50	Henry C. T.	R.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Incarceration of iris.
19	M.	55	Isidore T.	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Iritis, plastic, tenth day.
20	M.	50	Michael M.	R.	"	"	V. = shadows.	Discession, four weeks.
21	M.	70	Geo. S. B.	R.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
22	F.	70	Miss B.	L.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Discession, five months.
23	F.	77	Minnie M.	R.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	Vitreous lost.
24	F.	77	"	L.	"	"	V. = shadows.	Iritis, plastic.
25	M.	74	Anton M.	R.	"	"	$\frac{10}{10}$ w. + $3\frac{1}{2}$.	To have discession.
26	F.	54	Julia B. F.	R.	"	Congenital, partially absorbed.	$\frac{10}{10}$ w. + $\frac{1}{4}$.	"
27	F.	47	C. H. B.	R.	"	Senile.	$\frac{10}{10}$ w. + 12 D.	"
28	M.	58	F. R. H.	L.	"	"	$\frac{10}{10}$ w. + 10 D.	"
29	F.	55	C. D.	R.	"	"	$\frac{10}{10}$ w. + $\frac{1}{4}$.	To have discession.

Final results: $\frac{10}{10}$ 1; $\frac{10}{10}$ 2; $\frac{10}{10}$ 8; $\frac{10}{10}$ 5; $\frac{10}{10}$ 3; $\frac{10}{10}$ 4; shadows, 4; no result, 1; no test, 1.

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that with careful use the retractor, as I now present it and as I have used it for the past four years, will be of material service to the ophthalmic surgeon in the removal of a cataractous lens.

The instrument may be procured from E. B. Meyrowitz, of New York.

The New York Medical Journal.

A WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M.D.

THE PHYSICIAN who would keep abreast with the advances in medical science must read a *live* weekly medical journal, in which scientific facts are presented in a clear manner; one for which the articles are written by men of learning, and by those who are good and accurate observers; a journal that is stripped of every feature irrelevant to medical science, and gives evidence of being carefully and conscientiously edited; one that bears upon every page the stamp of desire to elevate the standard of the profession of medicine. Such a journal fulfills its mission—that of educator—to the highest degree, for not only does it inform its readers of all that is new in theory and practice, but, by means of its correct editing, instructs them in the very important yet much-neglected art of expressing their thoughts and ideas in a clear and correct manner. Too much stress can not be laid upon this feature, so utterly ignored by the “average” medical periodical.

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DR. VALK'S IRIS RETRACTOR.

